PROC. ENTOMOL. SOC. WASH.
88(1), 1986, pp. 8–12

A NEW SPECIES OF *RIGGIELLA* KORMILEV FROM MEXICO (HEMIPTERA: LYGAEIDAE: BLISSINAE)

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Abstract.—*Riggiella lucida* is described as a new species from southern Mexico. The bamboo *Chusquea* sp. is established as the breeding host. *Riggiella lucida* is the first species of *Riggiella* known from north of South America. The third, fourth and fifth instar nymphs are described. The phylogenetic relationships of *Riggiella* are reevaluated. A dorsal view of the holotype is included.

The genus *Riggiella* Kormilev contains some of the largest and the most extremely flattened species of New World Blissinae.

Previously three species have been described, all from South America. The present paper describes the first species from Central America and establishes bamboos as definite host plants. The availability of nymphs enables the phylogenetic relationships of the genus to be more adequately understood.

Phylogenetic relationships: Slater (1979) was somewhat ambiguous concerning the phylogenetic position of *Riggiella.* His cladogram (p. 31) placed it in a clade containing a number of Old World taxa (and also *Patritius* Distant from the Western Hemisphere) on the basis of the derived feature of multispinose forefemora. Slater (1979: 34) recognized the possibility of homoplasy in this character. On page 43 he suggests the possibility of the Oriental genus *Scansidemus* Slater and Wilcox being the sister taxon of *Riggiella.*

The availability of nymphs seems to clearly indicate that Slater's conclusions regarding the relationships of *Riggiella* were wrong. The large elliptical SGA (see Slater [1979] for explanation of abbreviations) sclerotized plates of the nymph constitute an important synapomorphy that allies *Riggiella* with the Western Hemisphere genus *Toonglasa* Distant and a series of Madagascar and Ethiopian genera (including *Ramadademus* Slater from Madagascar the species of which also have a broad flattened body and multispinose forefemora).

In the Western Hemisphere the sister group to *Riggiella* would thus appear to be *Toonglasa,* many species of which now are known to breed on bamboos. Nymphs of *Riggiella lucida* will key to *Toonglasa* (= *Extarademus* Slater and Wilcox) in Slater (1979).

All measurements are in millimeters.

Riggiella lucida New Species
Fig. 1

Adult.—General coloration black. Apex of tylus, femora, proximal and distal ends of tibiae, tarsi, labium, lateral margins of abdomen, and raised cubital vein of clavus yellow. Hemelytra strongly contrasting black and almost white, the light coloration as follows: clavus laterad of cubital vein, entire corium mesad of corial furrow from base to slightly beyond distal end of claval commissure (except for a row of dark punctures along outer margin of medius and a dark suffused area midway along region between medius and corial furrow); broad lateral margins of membrane from middle of apical corial margin caudad. Smooth posterior portion of pronotum mahogany brown, first antennal segment yellowish-brown, segment two dark brown but contrasting with black third and fourth segments.

Head and pronotum shining dorsally. Scutellum with pruinosity confined to a narrow basal stripe. Clavus, corium and membrane dull except for a strongly contrasting shining stripe occupying all of corium laterad of corial furrow, becoming broadened and lobate posteriorly and terminating near middle of corium at level of middle of apical corial margin. Head pruinose ventrally behind eyes, but subshining mesally. Propleuron and sternum pruinose behind acetabula but shining anteriorly except for a pruinose stripe extending from meson immediately in front of forecoxae diagonally forward to end at anterior margin of thorax midway between meson and lateral margin, and narrowing anteriorly.

General shape of body and position of punctures typical for genus, but body somewhat less broadened than in other species. Head below lacking a pair of genal tusks, but strongly produced as a large swollen rugose "carina" mesally. Spine at distal end of foretibia reduced to a short tubercle. A short blunt tubercle present near inner proximal end of each foretibia. Forefemur below with a large broadened bifid distal spine and five elongate sharp, distally curving, and evenly spaced spines proximally.

Length head 0.68, width 0.96; interocular space 0.64. Length pronotum 1.44, width 2.02. Length scutellum 0.94, width 1.18. Length claval commissure 0.70. Midline distance apex clavus–apex corium 1.60; midline distance apex corium–apex abdomen 2.24. Length labial segments I 0.30, II 0.20, III 0.24, IV 0.24. Length antennal segments I 0.24, II 0.68, III 0.72, IV 0.92. Total body length 7.52.

Holotype: ♂. MEXICO: *Chiapas:* Finca Prusia Queretaro. 24.I.1985 (H. Velasco). In Instituto de Biologia, Universidad Nacional Autonoma de Mexico, Mexico D.F.

Paratypes: MEXICO: 1 ♂, 3 ♀ same locality as holotype. (1 ♀ label identical with that of holotype; 1 ♂ lacking "Queretaro" and with H. Garcia as collector; 1 ♀ lacking "Queretaro" and with M. Vertiz as collector; 1 ♀ data as for holotype but F. Arias collector.) In Instituto de Biologia, Universidad Nacional Autonoma de Mexico, Mexico D.F., and J. A. Slater collections.

Adults of *Riggiella lucida* will key with some difficulty to *Riggiella vianai* Kormilev in Slater (1979). Within the genus *Riggiella, lucida* is not particularly similar to *vianai* or to either of the other two species of *Riggiella* (*distinctus* and *planus* Slater and Ahmad).

Riggiella lucida is a much less broadened species than any of those previously

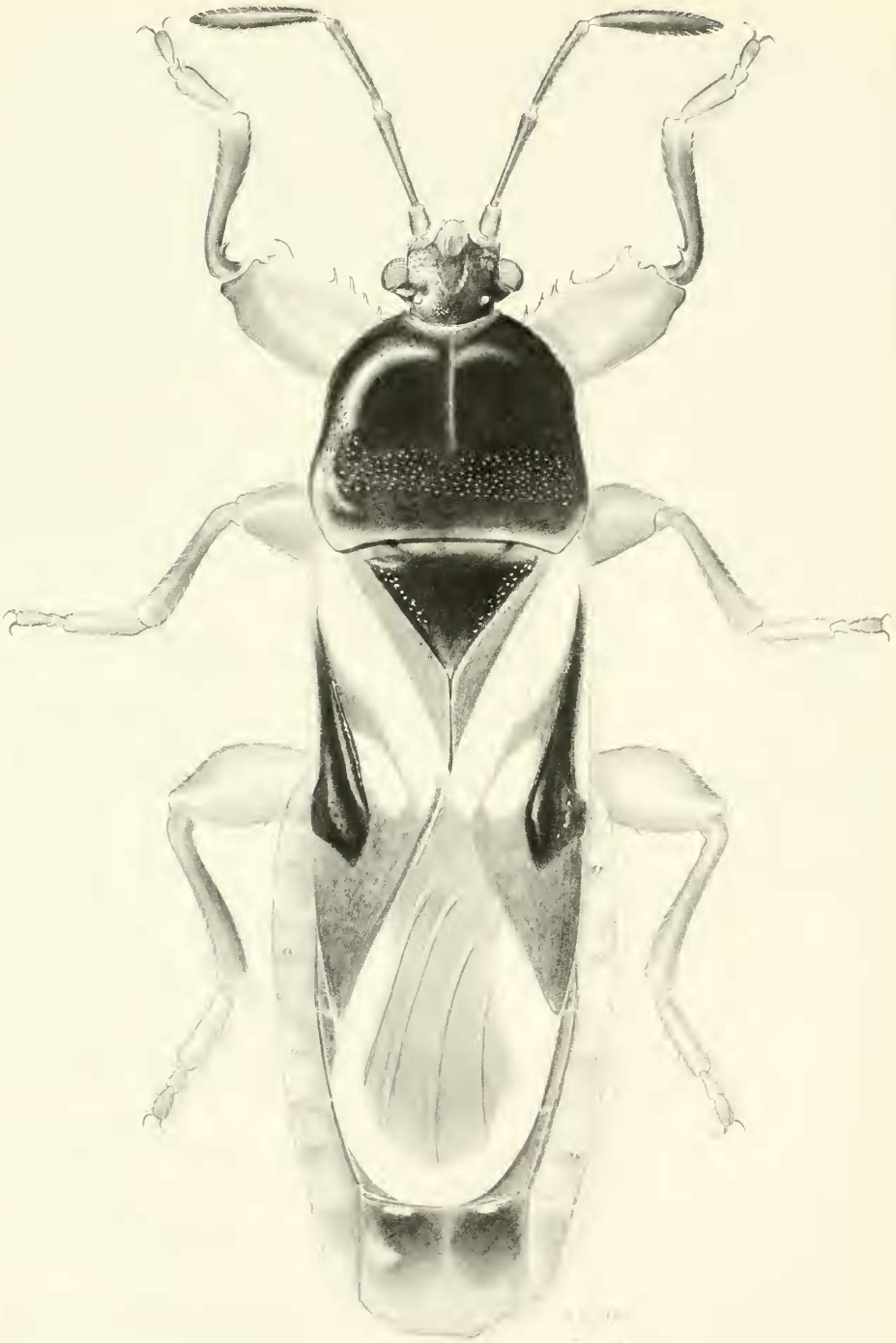

Fig. 1. *Riggiella lucida* New Species. Dorsal view.

described. In the other three species the pronotum is approximately twice as wide as the median length whereas in *lucida* it is only slightly more than 1½ times as wide. This gives *lucida* somewhat the appearance of some species of *Patritius.* However, the strongly flattened body and particularly the shape of the metathoracic scent gland auricle clearly demonstrate that *lucida* is congeneric with the other species of *Riggiella.*

In addition to the less strongly broadened body shape *lucida* may readily be distinguished by the loss of pruinosity laterally on the scutellum, the lack of a dark stripe on the corium immediately adjacent to the claval suture and the lack of short tuberculate projections on the genae.

This latter feature is interesting as the mesal surface of the head below is produced into a swollen lobe that is strongly suggestive of a fusion of the genal "tusks" of the other species. This presumably apomorphic condition taken together with the apomorphic condition of reduced pruinosity on the scutellum, pronotum, propleuron and head suggests that the less broadened body form may be secondarily derived from the more broadened South American species rather than the reverse.

The presence of a species of *Riggiella* as far north as southern Mexico is another example of the close relationship of so many of the Central and South American blissine taxa.

Immature Stages of *Riggiella lucida*

Fifth instar nymph: MEXICO: (*Chiapas:* Finca Prusia Queretaro).—Body shape moderately broadened and robust as in adult. Head, pronotum, distal portion of scutellum, most of mesothoracic wing pads and legs bright yellow. Distal ends of wing pads strongly contrasting dark brown and scutellum extensively suffused with dark brown. First antennal segment dull yellow, segments two and three dark brown, segment four black. Central area of tibiae and second tarsal segment pale brown. Abdominal terga 2-3-4-5 posteriorly and mesally broadly banded with rose-pink, strongly contrasting with white coloration of remainder of abdomen. No TM sclerites present anterior to TM 7, sclerites of TML row small, ovoid. No TL 2–5 sclerites, TL 6 minute, elongate. TL 7 distinctly separated from TM 7, the anterior of the latter sinuate, produced mesally. TML 7 and TMA 7 fused. SGA 4–5 much larger than SGP 4–5 and forming a large half-circular sclerite but smaller than SGA 5–6 which is not only broader but conical or almost pyramidal in shape. Dorsal abdominal sclerites pale brown except for TM 7, 8, and 9 which are a strongly contrasting chocolate brown color.

No SM 4 or 5 sclerites. SM 6 well developed and triangular, SM 7 broadly rounded almost attaining anterior margin of sternum 7. SML 7 sclerites very large and lobate with smaller but distinct and similarly shaped sclerites on sterna five and six. These sclerites suggest that Slater (1979) is incorrect in believing that what he labels as SML 7 is serially homologous with his SML row for such a row is present in this insect in addition to the sclerites noted here.

Length head 0.54, width 0.88; interocular space 0.62. Length pronotum 0.94, width 1.70. Length mesothoracic wing pads 1.88. Length abdomen 2.96. Length labial segments I 0.20, II 0.24, III 0.22, IV 0.20. Length antennal segments I 0.16, II 0.58, III 0.44, IV 0.70. Total body length 5.84.

Fourth instar nymph: Same locality.—Similar to instar 5, but with scutellar

area completely dark brown. Length head 0.48, width 0.68; interocular space 0.44. Length pronotum 0.64, width 1.14. Length mesothoracic wing pads 0.86. Length abdomen 2.76. Length labial segments I 0.20, II 0.20, III 0.18, IV 0.20. Length antennal segments I 0.14, II 0.32, III 0.36, IV 0.56. Total body length 5.12.

Third instar nymph: Same locality.—Similar to preceding. Length head 0.44, width 0.56; interocular space 0.42. Length pronotum 0.44, width 0.96. Length mesothoracic wing pads 0.38. Length abdomen 1.88. Length labial segments I 0.18, II 0.14, III 0.16, IV 0.16. Length antennal segments I 0.10, II 0.24, III 0.26, IV 0.42. Total body length 3.60.

Biology.—The type locality of *Riggiella lucida* is near the Guatemalan border. This is a tropical area. Adults and nymphs were taken on a bamboo (*Chusquea* sp.), the nymphs and one male being taken on the leaves, the other adults behind the sheaths. Kormilev (1949) reported *Riggiella vianai* as taken on bamboo. However, the present record is the first that definitely establishes a breeding population for a species of *Riggiella* on bamboo.

Acknowledgments

We extend our appreciation to H. Velasco, H. Garcia, M. Vertiz and F. Arias (Universidad Nacional Autonoma de Mexico) collectors of this interesting species; to Consejo Nacional de Ciencia y Tecnologia Mexico and to Gonzalo Halffter for financial assistance to the junior author; and to Mary Jane Spring and Elizabeth Slater (University of Connecticut) for preparation of the illustration and aid in preparation of the manuscript respectively.

This work was supported in part by a grant to the senior author from the National Science Foundation.

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